MACS 30100
HW#1
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1.12

Building Models

Deviant Aggressive Behavior

If the Theory I of deviant aggressive behavior is correct, then social policies that give rewards to non-deviant and non-aggressive behaviors and punishments to deviant aggressive behaviors should be implemented on a societal level to reduce them. For example, legal regulations should punish individuals who commit crimes by fining them or imprisoning them.

If the Theory II is correct, then social policies should aim to reduce the hostility of authority figures by making it less likely for them to be a source of anger and pressure for ordinary individuals in the society. For example, less oppressive and dictatorial political figures and social policies might reduce the social pressure exerted on individuals. Also, society should promote a more genial image of leaders and rulers to reduce the psychological distance between the authority and the common individuals. Moreover, social institutions should assist individuals in relieving their frustration and helping them build healthy mental states.

If the Theory III is correct, then social policies that encourage equality between social groups could reduce deviant aggressive behaviors. Policies should aim to reduce social discrimination and unfairness and to promote equal rights in all aspects, such as punishing employers who discriminately hire and treat employees by their gender and race, in order to reduce deviant aggressive behaviors by the discriminated. In addition, education about anti-discrimination should be promoted in schools and in social media.

If the Theory IV is correct, then social policies should be focused to discourage or even to prohibit the deviant subculture. For example, social policies should educate people about the danger and the harm of deviant aggressive behaviors and the deviant subculture. Government should illegalize organizations that support violent, deviant, and aggressive subcultures, such as Nazi groups. Schools could reduce the possibility of students' socialization with the deviant subculture through education.

Some deviant aggressive behavior could be explained by one of these theories mentioned above. However, in most cases, these four theories could play complex roles in how deviant aggressive behaviors occur in society. For example, many mass shooting cases conform to the characteristics of Theory II and III. Some shooters have committed such crimes because they believed that their behaviors could be a sign of rebellion towards the unjust social rules and

political leaders. These mass shooting cases are always premeditated with clear political purposes. Many of the terrorist mass shootings and explosions could be examples of deviant aggressive behaviors explained in Theory II.

Other cases can have a different story, some shooters might believe that mass shooting is a way to express their hatred to the existing power system and to respond to the oppression by the discriminative social structure. However, most recent cases do not seem to comply with this theory (III). For example, some recent research results have shown that, in 2018, there are more cases of mass shootings committed by White men, who are usually regarded as privileged both in gender and in race in the United States. Taking the Orlando nightclub shooting case as an example, the shooter committed such crime because of his discrimination towards the LGBT community. Nevertheless, it is also worth to note that Theory III might contend that, in this case, the shooter might believe that his social group is undergoing reverse discrimination because of the elevated social status of the minority groups.

Theory I could be the best explanation for many mass shooting cases as well. For example, some terror groups train young children to commit mass shootings or explosions by brainwashing them about the rewards they would get in heaven after sacrificing their lives. Therefore, these young shooters always believe that they will obtain spiritual and physical rewards by performing terrorist activities. Some researchers also agree with this theory by arguing that the frequent exposure to violent video games and movies gives people psychological rewards to violent behaviors and decreases their level of fear responses due to habituation. Thus, these individuals become more likely to commit crimes like mass shootings in the real world.

Theory IV could explain many mass murder cases by cults or by terror groups. Many cult believers or terrorists are socialized to become members of a deviant aggressive subculture. The mass suicide by Heaven's Gate in California could be an example. However, I also believe that cases of mass shootings cannot be simply categorized and explained by a single theory. Many mass shooting cases have characteristics of multiple theories, and other reasons, such as mental disorders, might also be the flashpoint of deviant aggressive behaviors like mass shootings.

Waiting until the last minute

My explanation for this phenomenon comes from a psychological standpoint. I think that people generally put what they find to be the most unpleased at the last. Therefore, their procrastination gets rewarded by having fun for as long as possible, and cramming makes the pain to last for a shorter time. Moreover, although cramming certainly cannot produce work of the best outcome, the best outcome is sometimes not required. For example, professors sometimes cannot tell whether a student's homework is finished at the last minute and hence his

or her procrastinating behavior cannot be punished. Or, in companies where quantity but not quality is required (e.g., workers need to work for a certain number of hours per day), procrastination is further rewarded so that the unpleasant process of work will take a shorter amount of time.

To generalize my model to most cases of procrastination, I believe that the inputs can be how much one likes a task and one's expected time length that is needed to complete such task without cramming before the deadline. The first independent variable could be operationalized by using a Likert scale survey, asking people how pleasant they feel doing this task. The second predictor could be measured also using a survey method by asking individuals to approximate the time that they need to complete the task with good quality and without cramming. My output variable will be the extent of procrastination, measured by two elements: the ratio of time spent on completing the task at the last minute versus the expected time length; and the proximity of completion in time to the final deadline. Similarly, the first outcome variable could be obtained by measuring individuals' real time spent in completing the task and divide it by the time surveyed earlier. The second outcome variable could be measured by simply calculate how much time left after completion before reaching the deadline. Therefore, according to my model, if a task is perceived as especially unpleasant by an individual, he or she will tend to complete it closer to the deadline, and cram it more by spending much less time in it then it would naturally take.

An alternative model can be how busy people are. For example, if an individual is occupied in time by many tasks with different time limits, then it is likely for him or her to complete all tasks in hand until the last period of time before their deadlines. Therefore, in this case, waiting until the last time could be the most reasonable arrangement of time because this individual could have sufficient time to work on every task before they are due. Thus, the predicting variable of this model will be how busy individuals are, which can be measured by how many tasks they have in hand and how much time needed to take in competing them. The outcome variable will still be similar to the previous model in measuring the level of procrastination.

Each model will produce two predictions. If my level of pleasantness model is correct, then a task that is rated as highly unpleasant will result in a small time ratio and a greater proximity to the deadline, meaning that the individual cram the work more quickly and closely to the final time limit. On the other hand, another prediction could be that the level of pleasantness is unrelated to the level of procrastination. Thus, data will not return any statistically significant correlation between the perceived unpleasantness of a task and the time ratio or the proximity in time.

The second model would also have two predictions. If the busier an individual is, the smaller the time ratio and the more proximal the completion is to the deadline, then the prediction would inform us that how busy an individual is relates to his or her level of procrastination. Otherwise, the number of tasks an individual has and how much time he or she needs to complete them in a given period of time should be irrelevant to how proximal their completions are to the final deadline the calculated time ratio.

Selecting and Fitting a Model

1. For each part, indicate whether we would generally expect the performance of a flexible statistical learning method to be better or worse than an inflexible method. Justify your answer.
    a. A flexible statistical learning method will be better when the sample size *n* is extremely large. A flexible method usually allows higher generalizability and hence could fit a large data better, and it would also avoid the problem of overfitting by its flexibility.
    b. An inflexible method will be better in the case where there are many predictors *p* and not many observations *n*. When there are not many *n*, the use of a highly flexible model could produce an overfitting model. Inflexible models might not suit the existing *n* cases the best, but it can be more generalizable to a larger population.
    c. A flexible method will be better than the inflexible when the relationship is highly non-linear because flexible methods, such as non-parametric methods, generally do not assume any known function or mathematical relationships when analyzing the relationship between the predictors. Thus, flexible methods will be more accurate in explaining the data than inflexible methods.
    d. When the variance is extremely high, an inflexible method will perform better than flexible methods because a flexible model will likely take many outliers and noises into consideration and thus reduce the generalizability.